DOCUMENT RESUME

ED 294 277 CS 506 144

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TITLE Gender and Leadership Differences in Smiles in Sorority and Fraternity Pictures.
PUB DATE Apr 87
NOTE 13p.; Portions of paper presented at the National Undergraduate Honors Conference in the Communications Arts and Sciences (Memphis, TN, April 24-27, 1987).
PUB TYPE Reports - Research/Technical (143) -- Speeches/Conference Papers (150)

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS Communication Research; *Facial Expressions; Fraternities; Higher Education; *Leadership Qualities; *Photographs; *Sex Differences; *Sex Role; Sororities; Speech Communication
IDENTIFIERS *Smiling

ABSTRACT

Furthering research on the explanations for gender differences in nonverbal expression, a study investigated the types of posed smiles depicted in sorority and fraternity photographs, and related them to whether or not the subject held a leadership position in that organization. Five sororities and five fraternities at a large eastern university were included in the study--the total number of subjects was 746. Two composite photographs from each organization, showing the face and neck of each member, were rated on a simplified version of Ewan C. Grant's smile scale. Four types of increasingly broad smiles were identified. Results showed that females gave statistically significantly wider smiles than males. Also, female leaders gave significantly wider smiles than female nonleaders. However, there was not a significant difference between male leaders and non-leaders in smiling wideness. The Upper Smile (which shows the top teeth only) was by far the most frequent smile observed: it was found in over one half of the photographs in each of the groups. Also, females were much more likely than males to show teeth in their smiles. Female leaders did not differ from nonleaders in showing teeth, but they showed over twice as many broad smiles as did female nonleaders. Male leaders did not differ significantly from male nonleaders in either respect. (ARH)

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ED294277

Gender and Leadership Differences in Smiles in Sorority and Fraternity Pictures

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Portions of this paper were presented by Maureen Boyce at the National Undergraduate Honors Conference in the Communication Arts and Sciences, Memphis, Tenn., April 24-27, 1987. Reprints should be requested from Ross Buck, Communication Sciences U-85, University of Connecticut, Storrs, CT 06268.

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There is considerable evidence that, in most emotional situations, adult females are more expressive than are adult males. Females show more spontaneous facial/gestural responding to emotional stimuli, so that observers are better able to make accurate judgements about their reactions (Buck, 1984; Buck, Miller, & Caul, 1974). Women also smile and laugh more, gaze more, approach others more closely, and touch more (Hall, 1984).

While there is little doubt about the existence of substantial gender differences in nonverbal expression, the explanation for these differences remains unclear. Many of these differences appear to be based upon sex-role learning: an "externalizing" pattern of expression is expected of women in our culture, and gender differences in at least spontaneous expressiveness and smiling are relatively weak in children (Buck, 1975; 1977; Hall & Halberstadt, 1986). Henley (1977) has offered one of the most thoroughly developed explanations for this particular pattern of social learning: she argues that the gender differences in rules about expression reflect and perpetuate male dominance in our society. For example, Henley (1973) has suggested that women smile more frequently than men as a gesture of submission. This is related in turn to evidence of beliefs held by both men and women that stereotypical "male" characteristics are the basis for success in leadership positions and that women, therefore, do not make good leaders (Denmark, 1977).

However, the relationship between nonverbal dominance behavior and social power may be more complex than is commonly

assumed. Hinde (1974) has noted that a submissive "fear grin" may be directed by dominant monkeys toward less dominant animals, apparently as a sign of reassurance. Also, Keating and her colleagues (1981) in a cross-cultural study found only a weak relationship between smiling and rated submissiveness, and they suggested that the most effective strategy for achieving dominance in some societies may "involve the manipulation of others...by clever (or 'polite') portrayals of deference" (p. 624). In a field study of the nonverbal behaviors of individuals differing in gender and status, Denmark (1977) found that higher status subjects displayed more warmth and affiliation overall than did lower status subjects.

In a meta-analysis of 24 studies of smiling, Hall and Halberstadt (1986) found no support for the "dominance-status" hypothesis that women smile more than men because women are socially weaker. The presence of free interaction and of social tension were the strongest predictors of differential smiling in women, and there was some support for a "warmth-affiliation" hypothesis that women smile more in friendly and intimate situations. Hall and Halberstadt suggest that this may reflect womens' positive socioemotional orientation: that women try more than men to appear cheerful and to ease the discomfort of others. They caution however that the studies in their meta-analysis may be unrepresentative in that few involved interactions in natural settings, and that those tended to be between strangers.

Several studies have found that the gender difference in smiling extends to the posed smiles depicted in portrait

photographs. In a study by Morse (1982), college yearbook pictures were scored for smiling according to a three-category scale: smile, half-smile, and no smile. She found significant differences between the sexes clearly indicating that females smiled more than males. Mills (1984) examined the self-posed behaviors of females and males in photographs and found that the only significant difference occurred for smiling. Regan (1982) also found evidence that females smile substantially more than males in posed photographs. None of these studies however systematically examined the type of smile portrayed, and none investigated the individual qualities of the subjects depicted in the photographs. The present study investigated the types of smiles depicted in sorority and fraternity photographs, and related them to whether or not the subject held a leadership position in that organization.

Methods

Subjects.

Five sororities and five fraternities at a large Eastern university were included in this study. All the sororities on campus were included, and fraternities were selected from the ten on campus according to the size and number of leadership positions in the group. Thus, moderately-sized fraternities were chosen with the average number of members being 35.5. The largest group had 54 members, the smallest 21. For comparison, the average sorority membership was 39.1 with the largest group having 50 members and the smallest having 23 members. The average

fraternity and sorority membership was 37.5.

Leadership positions in the five fraternities selected varied slightly with the average number being 11.1. The range was between 7 and 19. The average number of leadership positions in the sororities was 13.1. The range was between 7 and 23, and the combined average number of leadership positions was 12.1.

The total number of subjects was 746, including 131 female leaders, 260 female nonleaders, 111 male leaders, and 244 male nonleaders.

Procedure.

Each group had composite photos that pictured all members, officers and non-officers. The individual photographs showed the face and neck of each person. The pictures were located in the living rooms of the ten houses. The two most recent composites (1984, 1985) from each group were rated on a simplified version of Ewan C. Grant's (1969) smile scale. Leadership position was indicated if the person had an officer title under his or her name.

Grant's scale ranges from a Simple Smile (1) to an Oblong Smile (8). In the process, the teeth are increasingly revealed and the mouth opens wider. The Simple Smile (1) and the Wide Smile (2) do not reveal any teeth. In the Simple Smile the lips are drawn up and back slightly; in the Wide Smile they are drawn fully back. The former is often seen when a child is alone, while the latter is typically shown to other persons, according to Grant (1969). In contrast, the Upper Smile (4), the Lip In Smile (5), and the Broad Smile (6) reveal teeth in increasing numbers: the

Upper Smile and Lip In Smile show the top teeth, while the Broad Smile shows both upper and lower teeth. The Upper Smile is described by Grant as the most common social smile, used in greeting situations; while the Broad Smile is seen during excitement and fast chasing play in children. The Grin (3) and Open Grin (7) are one-sided smiles that were not examined in this study. Similarly, the Oblong Smile, involving a Broad Smile with the jaw pushed forward, was not observed. The Lip In Smile is described by Grant as a variation of the Upper Smile, and it was rated as an Upper Smile since so few (3) were observed. Nonsmiling photographs were rated as Simple Smiles.

The Grant scale was employed in two ways. It was treated both as a typology, with the categories of smile being distinct, and as a numerical scale of smiling wideness. For the latter, Simple Smiles were scored as 1, Wide Smiles as 2, Upper Smiles and Lip In Smiles as 3, and Broad Smiles as 4.

Inter-rater reliability was tested using one 1984 sorority composite. Twenty-three subjects were rated on the smiling wideness scale by the first author and an independent rater. A positive correlation of .97 was found.

Results

Mean values on the Smiling Wideness scale are given in Table 1. As expected, females were found to give significantly wider smiles than males ($t(744)=12.70$, $p<.001$). Also, female leaders were found to give significantly wider smiles than female non-leaders ($t(389)=3.43$, $p<.001$). However, there was not a

significant difference between male leaders and non-leaders in smiling wideness (t(383)=1.69, NS).

Insert Table 1 about here.

The frequencies of smile types is given in Table 2. As it indicates, the Upper Smile was by far the most frequent smile observed: it was found in over one half of the photographs in each of the groups. Also, females were much more likely than males to show teeth in their smiles--that is, to show an Upper Smile or Broad Smile as opposed to a Simple or Wide Smile (Chi square = 120.53, $p < .001$). Only 6.4% of the females overall showed a Simple or Wide Smile, compared with 40.3% of the males. Female leaders did not differ from nonleaders in showing teeth (Chi square = .076), but they did show more broad smiles than did female nonleaders (Chi square = 19.53, $p < .001$). Male leaders did not differ significantly from male nonleaders in either respect.

Insert Table 2 about here.

Discussion

This study is consistent with other findings that females are more facially expressive than males in that significant differences occurred between the smile means. Females showed teeth more often than males. Significantly, female leaders showed proportionately over twice as many Broad Smiles as did female nonleaders, and over three times as many Broad Smiles as did male

leaders.

Formal settings, such as photographs, allow the subject to choose the facial expression he or she wants to present. Yet, this deliberate, voluntary gesture appears to reflect the spontaneous expressiveness of the subject as well. Shor (1978) described the balance between spontaneity and cognitive governance of smiles by two principles. The first is that the individual remains at least peripherally aware of the magnitude of his or her smile so that it can be taken into account when evaluating his or her own expressive reaction and the impact it is having on others. The second is that the individual maintains a generalized controlling "set" not to produce smile magnitudes out of keeping with the permissible limits of the social situation and his or her own standards of decorum.

The second principle may help explain why there was a significant difference in smiling between female leaders and non-leaders, but not between male leaders and non-leaders. In her field study on gender and status, Denmark (1977) described the different tactics of female and male leaders. It appears that the potentially threatening direct stare is used more by men, in contrast to the submissive gesture of smiling, which is used more frequently by women. In fact, smiling was the only behavior displayed more by higher-status females than males and shown more by lower-status subjects in contrast to higher-status subjects.

Perhaps the controlling "sets" differ for the sexes. Female leaders may be smiling more to portray an image of openness and expressiveness desired in a leader in contrast to the male leaders

who may wish to portray an image of seriousness which is also desired in a leader. Both of these portrayals keep within the expressive social roles expected of males and females. Berman and Smith (1984) studied gender and situational differences in children's smiles by photographing same-sex pairs of children in a neutral situation and a "male-appropriate" situation that emphasized winning team spirit in an athletic competition. Results showed that males did not smile even when they were in the winning team condition while females smiled in both the neutral and winning conditions. In fact, females in the winning condition smiled significantly more than females in the neutral condition. This can perhaps be likened to the leader (winning condition) and non-leader (neutral condition) status in this study.

The results of this study suggest that a careful analysis of the posed smile can yield interesting and significant insights into self-presentation and display rule usage. Future research could focus on the culture-specificity of the posed smile, and changes over time. Fraternity and sorority composites could be used and comparisons made from different years. Another factor that would add insight to future studies would be to not only scale fraternity and sorority member's smiles, but also interview the officers of each organization about their leadership qualities. Common elements would probably be found between males and females, but perhaps females focus on openness and expressiveness in contrast to males who might stress the seriousness of their position.

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TABLE 1

MEAN VALUES OF THE SMILING WIDENESS SCALE

MALE LEADERS	2.51
MALE NONLEADERS	2.32
FEMALE LEADERS	3.31
FEMALE NONLEADERS	3.08

TABLE 2

FREQUENCIES OF SMILE TYPES

Subject	Simple Smile	Wide Smile	Upper Smile	Broad Smile
MALE LEADERS	26 (23.42%)	15 (13.51%)	57 (51.35%)	13 (11.71%)
MALE NONLEADERS	75 (30.73%)	27 (11.07%)	129 (52.87%)	13 (05.32%)
FEMALE LEADERS	2 (01.53%)	7 (05.34%)	70 (53.44%)	52 (39.69%)
FEMALE NONLEADERS	11 (04.23%)	5 (01.92%)	196 (75.38%)	48 (18.46%)